Solutions for your DC drives

Maximum performance
at an optimised cost

Schneider Electric

Features of the product offer:

> General description 5

> Technical characteristics 6-7

> Power connection diagrams 8-9

> Control connection diagrams 10-11

> Selection guide 12-13

> Dimensions and weights 14

> Options 15

Services:

> Assistance with maintenance and management of your installed base 16-17

> Our services teams can guide you through your modernisation projects 18

> ... and tackle issues of cost, lead times and quality 19

> Solutions for your DC drives 20

A lasting partnership

We have been at your side for more than 30 years offering DC solutions. With all this experience, we know that for reasons of cost, performance and ease of maintenance, these solutions are still the most suitable ones for you.
The new DCV offer satisfies all your requirements.
It incorporates a wealth of applications and a services offer to help you with the maintenance and modernisation of your existing installations

General description

Presentation

- Variable speed drives in the DCV•4•••• range are designed to control the speed or torque of compensated DC motors with separate excitation, and a rated armature current of 40 to 3000 A. They are all equipped with an excitation current regulator.
- The range consists of drives in 2 quadrants (DCV94••••) and 4 quadrants (DCV104••••) of the torque-speed plane which can be supplied by a 3-phase 230 V or 500 V mains supply (class S), or from a 690 V supply (class Y).
- The drives come with a CD-ROM containing multilingual setup documentation and any options (the printed version of the user manual is available as an option).
- These drives, available in a compact version up to 1050 A and as a separate bridge thereafter, satisfy the most demanding applications thanks to their robust construction, the outstanding numerical control performance, not to mention numerous integrated functions.
- Variable speed drives in the DCV•4 range are particularly suitable for hoisting and material handling applications, winders/unwinders, extruders, test benches, special machines, etc…

Functions

The DCV•4 range incorporates, without the addition of options, a lot of application functions rationalizing the automation.
By way of example, here is a list of the main functions integrated in the DCV•4••••

Basic functions:
- +/- speed
- Inching
- 7 preset speeds
- 5 configurable linear and S ramps
- Motor thermal protection
- Programmable overload monitoring
- Current limiting according to the speed
- Automatic toggle in U feedback on loss of speed feedback
- Configurable torque control at zero speed
- Torque servo control function
- Comparator block
- Auto-calibration of the speed and current loop
- Variable gains
- Modbus RTU, JBUS communication port

Advanced functions:
- Brake release sequence for hoisting movements
- Dual configuration (2 motors)
- Winder/unwinder function
- PID regulato

Programming terminal

DCV•4•••• drives are supplied with an alphanumeric programming terminal used for:
- Controlling the drive in local mode
- Configuring the various parameters
- Programming functions
- Displaying the drive status and current values

Programming and parameter-setting can also be performed:
- Via serial link
- Using the DCVCNF100 setup software

Options

The options offered in the DCV•4 range can be used to enhance the application functions, and to extend the drive communication capability on Schneider Electric architectures.
- Additional I/O card (1)
- CANopen communication card (1)
- Profibus communication card (1)
- Setup software and drive connection kit
- RS232/RS485 adapter for connection to a PC
- External power supply for RS485 bus
- Printed versions of multilingual user manuals
- A tropicalised version DCV•••V

(1) Two different Communication I/O cards can be installed simultaneously on the same drive.

Technical characteristics

Environmental characteristics

Conforming to standards	General standards		EN61800-1, EN50178
	EMC immunity		EN61000-4-2 immunity to interference level 6KV CD/8KV AD
			EN61000-4-4 level 4
	Clearances		According to IEC 664, IEC 664 A, degree 2 air pollution
	Safety		EN50178
	Climate resistance		According to EN60068-2-2, Bd test
	Vibrations		EN60068-2-6, Fc test
	Degrees of protection		According to EN60529
CE marking			Conforming to EEC low voltage directives
UL certification	DCV•D40S to M11S		On request, please consult your Regional Sales Office
Degree of protection	DCV•M14Y to M30•		IP20
			IP00 for the separate power bridge, IP20 for the separate control module
Relative humidity	Operation	°C	5% to 85% during operation
Ambient air temperature			0 to +40 without derating
	Storage	°C	+40 to +55 with current derating of 1.25% per degree above 40°C
		m	-25 ….+ 55
Maximum operating altitude			1000
			Current derating of 1.2% per additional 100 m of altitude
Operating position			Maximum angle 30° in relation to normal vertical mounting

Drive characteristics

Speed feedback		Armature		Depending on the output voltage
		Tacho	V	302,9 max.
		Incremental encoder	KHz	150
	Maximum speed	Sinewave encoder	KHz	150
Speed control	Speed range/ (accuracy)		tr/mn	8000
		Tacho		1 : 1000 / (0.1%)
		Incremental encoder		1 : 1000 / (0.02%)
		Sinewave encoder		1 : 10000 / (0.01%)
Torque control	Range/(accuracy			1 : 500 / (0.2%)

Electrical power characteristics

Armature circuit				
Supply voltage		DCV••••S	V	3x230V - 3x400V - 3x440V - 3x460V - 3x480V - 3x500V ± 10%
		DCV•M••Y		3x690V± 10%
Frequency			Hz	50/60 ± 5Hz
Armature output voltage		DCV104•••S	V	240V – 420V – 460V – 480V - 500V – 520V
		DCV94•••S		260V – 470V – 530V – 560V – 580V – 600V
		DCV104M••Y		720V
		DCV94M••Y		810V
Field coil circuit				
		All drives	V	1x230V - 1x400V - 1X460V ± 10%
	Supply voltage		Hz	50/60 ± 5Hz
	Frequency	All drives	V	200V - 310V - 360V (Uexc = 0.85 x U alimentation)
	Field coil output voltage	DCV•D••S	A	10
	Max. field coil current	DCV•C1•S		14
		DCV•C28S to C65S		20
		DCV•4C77S to M11S		25
		DCV•4M14Y to M30•		70

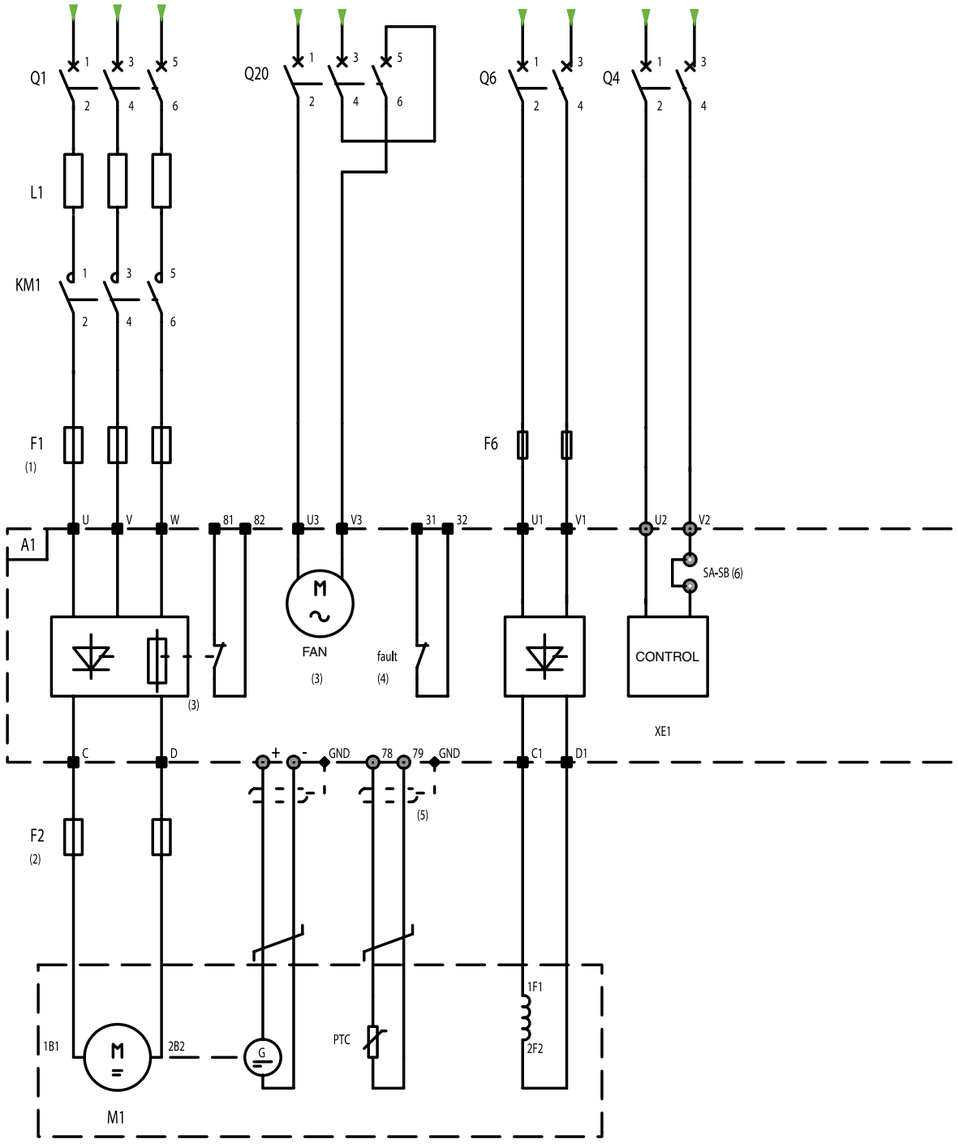
Electrical control characteristics

Control circuit			1x115V ± 15% - 1.2A ou 1x230V ± 15% - 0.7A 50/60 ± 5Hz
Available internal supplies			• 10 V supply for reference potentiometer, max. current 10 mA
			• 5 V supply for resolver, max. current 160 mA
			• 5 V/15...30 V supply for encoder and digital inputs, max. current 200 mA
Analog inputs	Number	3	differential programmable, 12 bits, ± 10 V, 0-10 V, 0-20 mA, 4-20 mA
Analog outputs		2	± 10 V, 12 bits, 5 mA max. per output
Logic inputs		8	4 fixed, 4 programmable, common charact.: 15....24 V – 5 mA per input
Temperature probe input		1	PTC probe in accordance with DIN44081 – DIN44082
Logic outputs		4	Programmable, 24 V, 20 mA max. per output
Relay output		2	1 fixed, 1 programmable, switching capacity 1 A, AC11 at 250V
Acceleration and deceleration ramp			• 5 programmable linear or S ramps
			• 0….65535 secondes
			• Ramp for fast stop
Main protection and safety features			• Internal supply fault
			• Line supply undervoltage
			• Armature overvoltage
			• Short-circuit/earth fault
			• I2t thermal protection of motor with forced ventilation, PTC prot., drive overheating prot.r
			• Under-excitation of the motor
			• Loss of tacho feedback, automatic toggle in U feedback
			• Disconnection from the fieldbus

Communication port characteristics

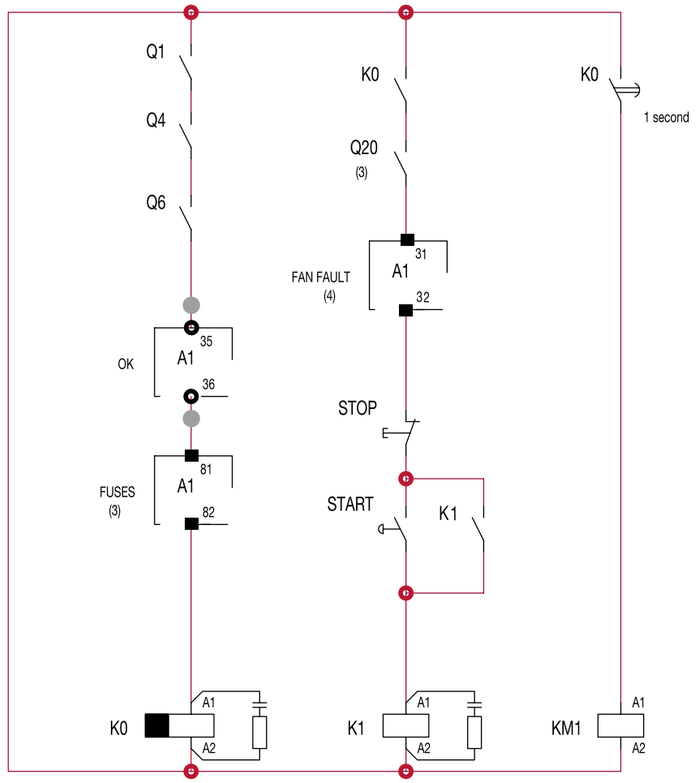
Structure			
	Physical interface		2-wire RS485/9-pin SUB-D connector
	Protocols		Modbus RTU, JBUS
	Transmission speed	bps	1200….19200
	Line termination impedances		Selectable using jumpers
	Electrical isolation		No (yes with option)
	Bus addresses		0 to 127

Power connection diagrams



(1) DCV104/94 up to C65S.
(2) DCV104 up to C65S.
(3) DCV104/94C77S to M30.
(4) DCV104/94M14Y to M30.
(5) If there is no PTC probe monitoring, wire up a 1 Kohm resistor mounted as standard.
(6) Choice of control voltage DCV104/94C28S to M11S.

■ Power terminals.
● Control card terminals.
● Power interface card terminals.



Determining the power equipment

Q4	Merlin Gerin circuit-breaker	Type for 115V power supply	Type for 230V power supply
Drives:	D40S to C18S	C60N bi 1A curve D	C60N bi 0,5A curve D
	M14Y to M30•		
	C28S to M11S	C60N bi 2A curve C	C60N bi 1A curve D

Q6	Merlin Gerin circuit-breaker	Type for 400V power supply
Variateurs :	D40S to D70S	C60N bi 10A curve C
	C11S to C18S	C60N bi 16A curve C
	C28S to C65S	C60N bi 20A curve C
	C77S to M11S	C60N bi 25A curve C
	M14Y to M30•	C60N bi 63A curve C

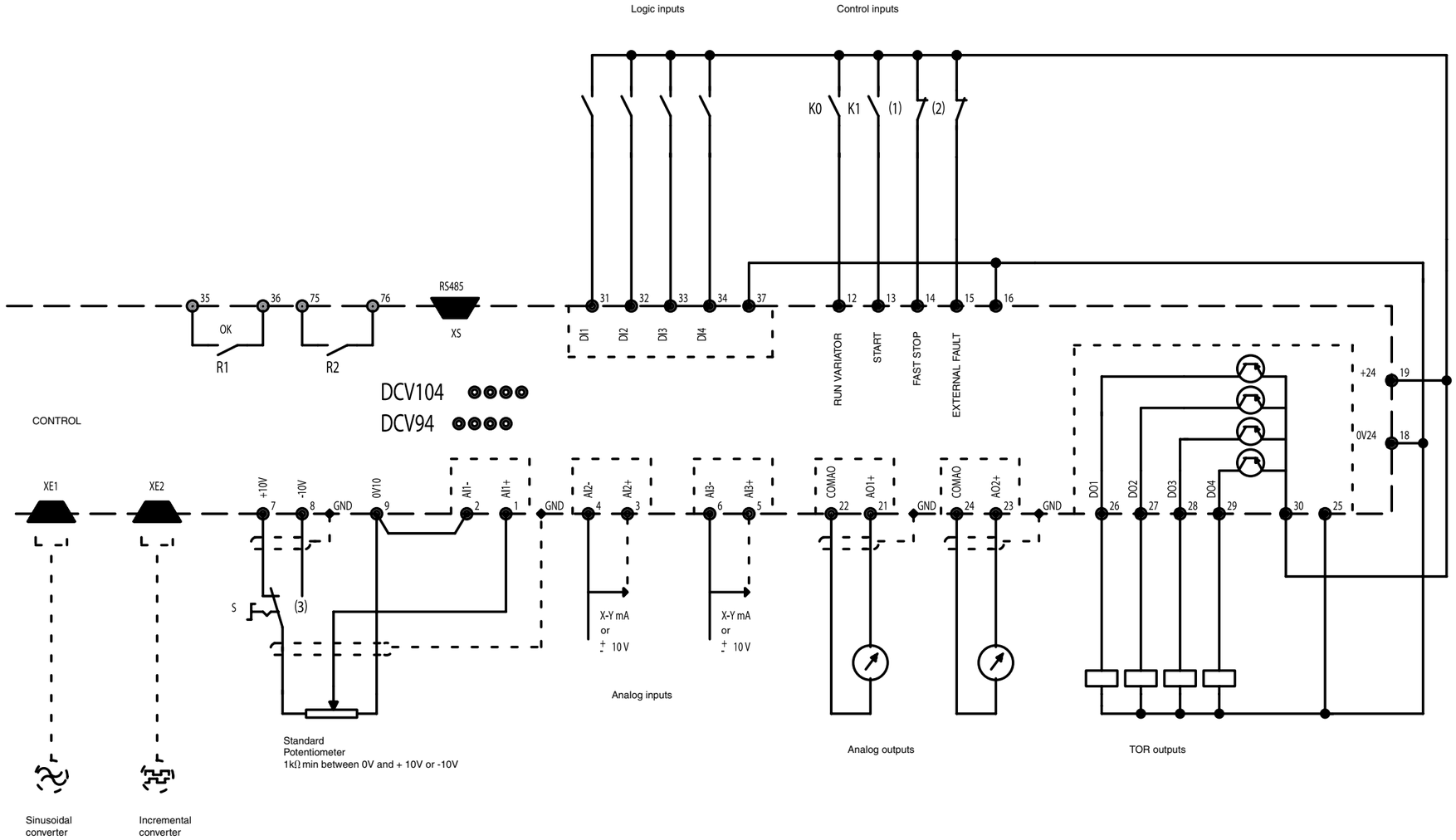
Q20	Telemecanique circuit-breaker	Type
	D77S to M11S	GV2ME05
	M20Y	GV2ME05
	M14Y to M20S	GV2ME04
	M27•M30	GV2ME06

Type for determining equipment:

F1, F2, F6
L1
Q1
KM1

See pages 10/11.

Control connection diagrams



(1) Input for fast stop (0 = fast stop).
(2) Input for external fault (0 = external fault).
(3) DCV104 only.

- Power terminals.
- Control card terminals.
- Power interface card terminals.

I/O parameter factory settings

Logic inputs

Terminal no.	Assignment
12	Run
13	Operation
14	Fast stop
15	External fault
31	Not assigned
32	Not assigned
33	Not assigned
34	Not assigned

Logic outputs

Terminal no.	Assignment
26	Acceleration
27	Deceleration
28	Speed threshold attained
29	Overload available

Relays

Terminal no.	Assignment
35-36	Drive OK
75-76	Not assigned

Analog inputs

Terminal no.	Format (*)	Assignment
1-2	+/- 10V	Speed reference before ramp
3-4	+/- 10V	Not assigned
5-6	+/- 10V	Not assigned

Analog outputs

Terminal no.	Format	Assignment
21-22	+/- 10V	Motor speed
23-24	+/- 10V	Motor current

(*): 2-pole format for DCV104 only.

Selection guide

4-quadrant range

S class: Input voltage up to 3 x 500 V ± 10%/Output voltage up to 520 V
Y class: Input voltage 3 x 690 V ± 10%/Output voltage 720

DCV104•••• (3)	size	Continous armature current	Continous line current	Max.excit I	Line choke (3)	Line circuit-breaker Merlin Gerin (3) (4)	Icu (kA)	Telemecanique input cont.(3)	Line fuses (3) (5)	Fuse carrier (3) (5)	Armature fuse (3) (5)	Fuse carrier (3) (5)	Exciter fuse (1) (5)	Fuse carrier (5)	Total dissipation
DCV104D40S (9)	1	40A	34A	10A	LDCVD70	NS100N-TM40D	25	LC1D32••	DCVF4M15 (1)	DF5FA61	DCVF4M17 (1)	DF5FA61	Built-in	Built-in	186W
DCV104D70S		70A	60A	10A	LDCVD70	NS100N-TM80D	25	LC1D50••	DCVF4M19 (1)	DF5FA61	DCVF4M21 (1)	DF5FA61	Built-in	Built-in	254W
DCV104C11S		110A	95A	14A	LDCVC15	NS160N-TM125D	30	LC1D80••	DCVF4M21 (1)	DF5FA61	DCVF4EAJ (2)	DCVS7B77	Built-in	Built-in	408W
DCV104C18S		185A	160A	14A	LDCVC25	NS250N-TM200D	30	LC1D115••	DCVF4G23 (2)	DCVS7B77	DCVF4G23 (2)	DCVS7B77	Built-in	Built-in	553W
DCV104C28S	2	280A	241A	20A	LDCVC25	NS250N-TM250D	30	LC1F185••	DCVF4G30	DCVS7B78	DCVF4G34	DCVS7B78	Built-in	Built-in	781W
DCV104C42S		420A	361A	20A	LDCVC53	NS400N-STR23SE	30	LC1F400••	DCVF4E30	DCVS7B78	DCVF4E31	DCVS7B78	Built-in	Built-in	1038W
DCV104C65S		650A	559A	20A	LDCVC65	NS630N-STR23SE	30	LC1F500••	DCVF4G85	DCVS7B78	DCVF4G85	DCVS7B78	Built-in	Built-in	1693W
DCV104C77S	3	770A	662A	25A	LDCVM10	NS800N-µLOGIC2.0	40	LC1F500••	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	2143W
DCV104M11S		1050A	903A	25A	LDCVM10	NS1000N-µLOGIC2.0	40	LC1F630••	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	2590W
DCV104M15S	4	1500A	1290A	70A	LDCVM14	NS1600N-µLOGIC2.0	40	LC1F780••	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	4900W
DCV104M14Y		1400A	1205A	70A	LDCVM14	NS1250H-µLOGIC2.0	42	LC1F780••	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	4900W
DCV104M20S		2000A	1720A	70A	LDCVM24	NS2000N-µLOGIC2.0	65	LC1BP33•31	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	5400W
DCV104M20Y		2000A	1720A	70A	LDCVM24	NS2000N-µLOGIC2.0	65	LC1BP33•31	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	6800W
DCV104M27S		2700A	2313A	70A	LDCVM24	NS2500N-µLOGIC2.0	65	LC1BR33•31	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	8700W
DCV104M27Y		2700A	2313A	70A	LDCVM24	NS2500N-µLOGIC2.0	65	LC1BR33•31	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	8700W
DCV104M30S		3000A	2580A	70A	(8)	(8)		(8)	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	9000W
DCV104M30Y		3000A	2580A	70A	(8)	(8)		(8)	Built-in	Built-in	Built-in	Built-in	DCVF4M19	DF5FA61	9000W

2-quadrant range

S class: Input voltage up to 3 x 500 V ± 10%/Output voltage up to 600 V –
Y class: Input voltage 3 x 690 V ± 10%/Output voltage 810

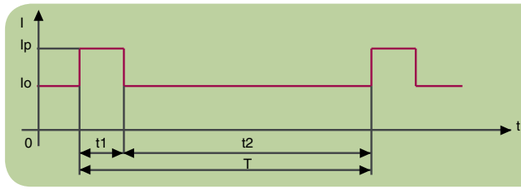
DCV94•••• (3)	size	Continous armature current	Continous line current	Max.excit I	Line choke (3)	Line circuit-breake Merlin Gerin (3) (4)	Icu (kA)	Telemecanique input cont.(3)	Line fuses (3) (5)	Armature fuse (3) (5)	Exciter fuse (1) (5)	Fuse carrier (5)	Total dissipation
DCV94D70S	1	70A	60A	10A	LDCVD70	NS100N-TM80D	25	LC1D50••	DCVF4M19 (1)	DF5FA61	Built-in	Built-in	254W
DCV94C11S		110A	95A	14A	LDCVC15	NS160-TM125D	25	LC1D80••	DCVF4M21 (1)	DF5FA61	Built-in	Built-in	408W
DCV94C18S		185A	160A	14A	LDCVC25	NS250-TM200D	30	LC1D115••	DCVF4G23 (2)	DCVS7B77	Built-in	Built-in	553W
DCV94C28S	2	280A	241A	20A	LDCVC25	NS250N-TM250D	30	LC1F185••	DCVF4G30	DCVS7B78	Built-in	Built-in	781W
DCV94C42S		420A	361A	20A	LDCVC53	NS400N-STR23SE	30	LC1F400••	DCVF4E30	DCVS7B78	Built-in	Built-in	1038W
DCV94C65S		650A	559A	20A	LDCVC65	NS630N-STR23SE	30	LC1F500••	DCVF4G85	DCVS7B78	Built-in	Built-in	1693W
DCV94C77S	3	770A	662A	25A	LDCVM10	NS800N-µLOGIC2.0	40	LC1F500••	Built-in	Built-in	Built-in	Built-in	2143W
DCV94M10S		1000A	860A	25A	LDCVM10	NS1000N-µLOGIC2.0	40	LC1F630••	Built-in	Built-in	Built-in	Built-in	2590W
DCV94M15S	4	1500A	1290A	70A	LDCVM14	NS1600N-µLOGIC2.0	40	LC1F780••	Built-in	Built-in	DCVF4M19	DF5FA61	4900W
DCV94M14Y		1400A	1205A	70A	LDCVM14	NS1250H-µLOGIC2.0	42	LC1F780••	Built-in	Built-in	DCVF4M19	DF5FA61	4900W
DCV94M20S		2000A	1720A	70A	LDCVM24	NS2000N-µLOGIC2.0	65	LC1BP33•31	Built-in	Built-in	DCVF4M19	DF5FA61	5400W
DCV94M20Y		2000A	1720A	70A	LDCVM24	NS2000N-µLOGIC2.0	65	LC1BP33•31	Built-in	Built-in	DCVF4M19	DF5FA61	6800W
DCV94M27S		2700A	2313A	70A	LDCVM24	NS2500N-µLOGIC2.0	65	LC1BR33•31	Built-in	Built-in	DCVF4M19	DF5FA61	8700W
DCV94M27Y		2700A	2313A	70A	LDCVM24	NS2500N-µLOGIC2.0	65	LC1BR33•31	Built-in	Built-in	DCVF4M19	DF5FA61	8700W
DCV94M30S		3000A	2580A	70A	(8)	(8)		(8)	Built-in	Built-in	DCVF4M19	DF5FA61	9000W
DCV94M30Y		3000A	2580A	70A	(8)	(8)		(8)	Built-in	Built-in	DCVF4M19	DF5FA61	9000W

(1) Multiples of 10.
(2) Multiples of 3.
(3) Protection of live parts against direct contact is mandatory for voltages < 500 V, accessories not supplied.
(4) Circuit-breaker thermal release to be set by the customer: motor In x 0.82 x 1.05.
(5) For the quantities required, see diagrams on pages 6-7.
(6) DCV104/94M2•Y drives.
(7) DCV104/94M2•S drives.
(8) Consult Schneider Electric.
(9) Addition of suffix V for varnished version. Example: DCV104D405V.

Transient characteristics of drives in the DCV range

IContinuous armature (A)	40	70	110	185	280	420	650	770	1000	1050	1400	1500	2000	2700	3000
Io (A)	22	34	50	125	175	260	425	520	520	520	750	750	1050	1620	1700
Ip (A)	54	96	154	231	350	525	780	900	1400	1485	2170	2325	3000 (7) 2740 (6)	3500 (7) 3600 (6)	3900

The values indicated in the table above must observe the following time limits:
t2 ⩾7 t1
t1 ⩽15s for ratings D40.. to C65..
t1 ⩽ 10s for ratings C77.. to M27..
For particular types of cyclical operation or for higher peak currents: please consult your Regional Sales Office

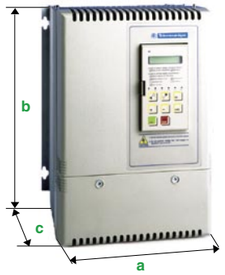


Simple cyclical operation.
Operation can be defined by two currents: Io and Ip.
Ip = peak current
Io = current in steady state

Dimensions and weights

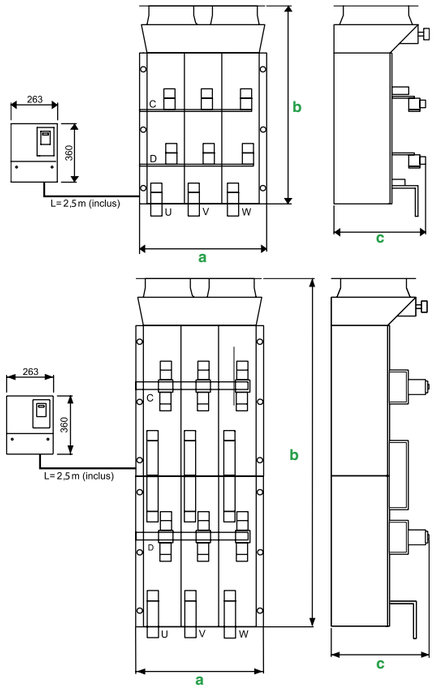
Compact drives

DCV	a (mm)	b (mm)	c (mm)	Weight (Kg)
DCV104D40S	263	360	274	8.4
DCV•D70S	263	360	274	8.8
DCV•C11S	263	360	274	10.8
DCV•C18S	263	360	274	10.8
DCV•C28S	311	388	338	24.5
DCV•C42S	311	388	338	29.5
DCV•C65S	311	388	368	32
DCV•C77S	521	510	402	61
DCV104M11S	521	510	402	65
DCV94M10S	521	510	402	65



Drives with separate bridge

DCV	a (mm)	b (mm)	c (mm)	Weight (Kg)
DCV104M15S	500	1310	375	130
DCV104M14Y	500	1310	375	130
DCV104M20S	500	1310	375	130
DCV104M20Y	620	1314	475	170
DCV104M27S	712	1535	490	240
DCV104M27Y	712	1335	475	240
DCV104M30S	784	1640	460	330
DCV104M30Y	784	1640	460	330
DCV94M15S	500	760	275	70
DCV94M14Y	500	760	275	70
DCV94M20S	500	760	275	70
DCV94M20Y	620	764	360	100
DCV94M27S	712	785	395	140
DCV94M27Y	712	775	395	140
DCV94M30S	784	960	415	215
DCV94M30Y	784	960	415	215
Control module	360	263	274	8.4

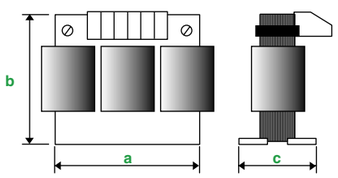


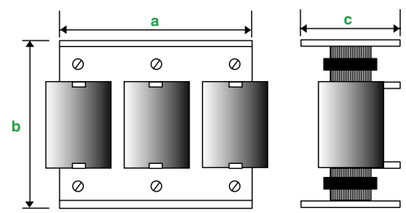
The network and motor armature connections are made via busbars located at the bottom of the separate power bridge.

Line chokes

Ref.	a (mm)	b (mm)	c (mm)	Dissipation	Weight (Kg)
LDCVD70	180	215	150	110W	9
LDCVC15	270	240	170	280W	20
LDCVC25	270	240	220	350W	26
LDCVC53	380	465	225	670W	50
LDCVC65	390	465	275	730W	60
LDCVM10	435	420	310	1300W	65
LDCVM14	420	550	340	1450W	90
LDCVM24	420	590	385	1860W	140

Connections via 6 busbars except for LDCVD70 (connection via terminal blocks).
Lifting rings on chokes >= LDCVC53.





Options

I/O extension cards	DCVS5V62
4 discrete inputs (+15...+30V; 3.2...6.4 mA)	
4 discrete transistor outputs (+15...+30V; 20 mA Max)	
2 ANA outputs (± 10 V – 5 mA)	

CANopen communication card	DCVS5Z27
CAN 2.0 protocol (11-bit identifier)	
Transmission speed: up to 1 Mbps	
Addresses: 1...128	
1 SDO for access to all drive parameters	
1 PDO of 4 input/output words	

Profibus communication card	DCVS5E25
Profibus protocol	
Transmission speed: Up to 12 Mbauds	
Slaves: 125 Max.	
Exchange mode: 4 PDC IN + 4 PDC OUT	
4 input PKW words + 4 output PKW words	

Setup software and connection kit	DCVCNF100
Configuration, use, diagnostics, display of drive parameters on PC	
Windows 95 environment® or later	
Including RS232/USB connection kit	
User files	
Read/write all the parameters	
Help with programming on startup	
Oscilloscope function	
Up to 32 networked drives can be managed	

RS232/RS485 adaptator	DCVS546Z
Drive connected to a PC RS232 port	
RS485 interface in multidrop configuration	
Allows up to 32 RS485 connection points	

External power supply for bus	RS485DCVS5Z40
External power supply for RS485 bus in multidrop configuration	
Up to 32 RS485 connection points	
+15...+30 V power supply, +5 V – 1 A output	

Printed User's Manual	DCVDOC100••
User's Manual in French	DCVDOC100FR
User's Manual in English	DCVDOC100EN

Setup, parameter-setting and maintenance document.
(User's Manual on CD supplied with the drive).

Assistance with maintenance and management of your installed base

Technical support, repair and exchange

Should you experience faults or malfunctions on our variable speed drives, Schneider Electric is well aware of the strategic importance of driven machines and can respond very promptly 24 hours a day - 7 days a week

Our service teams can offer you the solution best suited to your situation:
- An online technical analysis to find the optimum solution
- Express repair of defective equipment, excluding weekends and public holidays, for drives < 1000 A
- 24/7 service response from a technician with a predefined replacement parts kit for each drive type
- 24/7 replacement of the faulty drive with a new equivalent.

This system also applies to the old type VL1/RTV54-64/541-641/74-84 ranges (for third-party equipment, please consult your Regional Sales Office)

Maintenance contract

You are keen to ensure the longevity of your equipment, optimise your stocks of replacement parts, rationalise your installed base, and increase your ratio of services to production.
Our maintenance offer contract is based on 3 predefined contract types: Bronze, Silver and Gold, or can be tailored to meet your exact requirements with an “A la carte” contract.

*According to the customer choice

Wearing parts and replacement subassembly

	For DCV - A drive	Référence - B
Power fuses (for drives with built-in fuses)	104C77S (6)	DCVF4G59 (1)
	104M11S (6) – 94C77S (3)	DCVF4G60 (2)
	94M10S (3)	DCVF4G61 (2)
	104M15S (6)	DCVS7793 (3)
	104M14Y (6)	DCVS7804 (1)
	94M15S (6) - 104M30S (12) - 94M30S (12) - 94M30Y (12)	DCVS7799 (3)
	94M14Y (6)	DCVS7798 (3)
	104M20S (6) – 94M20S (6) - 94M20Y (6)	DCVS7802 (3)
	104M20Y(12)	DCVS7794 (2)
	94M27Y (12) - 94M275 (12) - 104M27(12)	DCVS7797 (3)
	104M27Y (12)	DCVS7805 (1)
	104M30S(12) - 94M30S(12) - 94M30Y(12)	DCVS7799
	104M30Y(12)	DCVS7193
Exciter fuses (for drives with built-in fuses)	D40S to C18S (2)	DCV824B
2-thyristor subassemblies	•C28S to 94Ml0S ou 104M11S (2)	DCV823B
Preassembled with heatsink	104M15S – Top plug-in base (3)	DCVS7B20 (1)
	104M15S – Bottom plug-in base (3)	DCVS7B26 (1)
	104M14Y – Top plug-in base (3)	DCVS7B23 (1)
	104M14Y – Bottom plug-in base (3)	DCVS7B29 (1)
	104M20S – Top plug-in base (3)	DCVS7B21 (1)
	104M20S – Bottom plug-in base (3)	DCVS7B27 (1)
For DCV104• four-quadrant drives, a plug-in base consists of two thyristors head-to-tail.	104M20Y – Top plug-in base (3)	DCVS7B24 (1)
	104M20Y – Bottom plug-in base (3)	DCVS7B30 (1)
	104M27S – Top plug-in base (3)	DCVS7B22 (1)
For DCV94• two-quadrant drives, a plug-in base consists of two thyristors in serie	104M27S – Bottom plug-in base (3)	DCVS7B28 (1)
	104M27Y – Top plug-in base (3)	DCVS7B25 (1)
	104M27Y – Bottom plug-in base (3)	DCVS7B31 (1)
	94M15S – Single-phase plug-in base (3)	DCVS7B01 (1)
	94M14Y – Single-phase plug-in base (3)	DCVS7B04 (1)
	94M20S – Single-phase plug-in base (3)	DCVS7B02 (1)
	94M20Y – Single-phase plug-in base (3)	DCVS7B05 (1)
	94M27S – Single-phase plug-in base (3)	DCVS7B03 (1)
	94M27Y – Single-phase plug-in base (3)	DCVS7B06 (1)
	104M30S – Top plug-in base (3)	DCVS7B34 (1)
	104M30S – Bottom plug-in base (3)	DCVS7B36 (1)
	104M30Y – Top plug-in base (3)	DCVS7B35 (1)
	104M30Y – Bottom plug-in base (3)	DCVS7B37 (1)
	94M30S – Single-phase plug-in base (3)	DCVS7B32 (1)
	94M30Y – Single-phase plug-in base (3)	DCVS7B33 (1)
Power section fans	For separate control units DCVS4B21(1) and DCVS4B22 (1) and drives •D70S (1)	DCVS7G76 (1)
	•C11S (1) •C18S (1) •C28S (2) •C42S (2)	DCVS7G71 (1)
	•C65S (2)	DCVS7G78 (1)
	•C77S (3) to •M11S (3)	DCVS7G17 (1)
	Power bridges •M14Y- (2) •M15S (2) •M20S (2)	DCVS7R24 (1)
	Power bridges •M20Y (2)	DCVS7R25 (1)
	Power bridges •M27• (2) •M30• (2)	DCVS7R26 (1)
Control module for drives with separate power bridges	104M••S (1) – 94M••S (1)	DCVS4B21 (1)
	104M••Y (1) – 94M••Y (1)	DCVS4B22 (1)
Control card	All drives (1)	DCVS5N45 (1)
Parameter-setting terminal	All drives(1)	DCVS5P0S (1)

A The values in brackets indicate the quantities fitted on each drive

B The values in brackets indicate the product packaging

Our services teams can guide you through your modernisation projects...

You need to replace an existing variable speed drive

You want to replace a Rectivar drive quickly and safely, with a device from the new range. The table below lists the possible options depending on your budget.
For a more in-depth study, our service experts can guide you and suggest detailed costings (for third-party products and VD1/RTV44/RTV04 single-phase drives, please consult your Regional Sales Office).

Table of correspondence with the old ranges RTV84••/RTV74•• and RTV64••/RTV54••

RTV641D16Q	RTV84D16Q	**DCV104D40S**
RTV641D32Q/S	RTV84D32Q/S	**DCV104D40S**
RTV641D48Q/S	RTV84D48Q/S	**DCV104D70S**
RTV641D72Q/S	RTV84D72Q/S	**DCV104C11S**
RTV641C18Q/S	RTV84C18Q/S	**DCV104C28S**
RTV641C27Q/S	RTV84C27Q/S	**DCV104C28S**
RTV641C40Q/S	RTV84C40Q/S	**DCV104C42S**
RTV641C65Q/S	RTV84C65Q/S	**DCV104C77S**
RTV641C80Q/S	RTV84C80Q/S	**DCV104M11S**
RTV641M12Q/S	RTV84M12Q/S	**DCV104M15S**
RTV641M12Y	RTV84M12Y	**DCV104M14Y**
RTV641M17Q/S	RTV84M17Q/S	**DCV104M20S**
RTV641M17Y	RTV84M17Y	**DCV104M20Y**
RTV641M30Q/S/Y	RTV84M30Q/S/Y	**DCV104M30S/Y**
RTV541D32Q/S	RTV74D32Q/S	**DCV94D70S**
RTV541D48Q/S	RTV74D48Q/S	**DCV94D70S**
RTV541D72Q/S	RTV74D72Q/S	**DCV94C11S**
RTV541C18Q/S	RTV74C18Q/S	**DCV94C28S**
RTV541C27Q/S	RTV74C27Q/S	**DCV94C28S**
RTV541C40Q/S	RTV74C40Q/S	**DCV94C42S**
RTV541C65Q/S	RTV74C65Q/S	**DCV94C77S**
RTV541C80Q/S	RTV74C80Q/S	**DCV94M10S**
RTV541M12Q/S	RTV74M12Q/S	**DCV94M15S**
RTV541M12Y	RTV74M12Y	**DCV94M14Y**
RTV541M17Q/S	RTV74M17Q/S	**DCV94M20S**
RTV541M17Y	RTV74M17Y	**DCV94M20Y**
RTV541M30Q/S/Y	RTV74M30Q/S/Y	**DCV94M30S/Y**

You are in charge of a modernisation project

To satisfy your requirements, we can offer you two complementary approaches: Project management and Consultancy & expertise.

Project management
You are looking for a strong commitment from us to your modernisation project. You are counting on the experience of our project managers and the support of our tools and methods.

Consultancy and expertise
You are looking for additional skills and methodology.
Our experts and consultants can help you to analyse your existing base, and then define and implement the solution.

...and tackle issues of cost, lead times and quality

Mining industry: modernising within a guaranteed timescale

Customer situation
Replacing a TSX7 + Rectivar architecture on a 90 T overhead crane. The work needs to be performed during production downtime. In the event of a problem, it must be possible to return to the original architecture and restart.

Main steps in the project
- Detailed analysis of the existing system: communication, PLC programs, drive control and conditions of use
- Replacement of all the variable speed drives
- Migration software, creation of system restore kits, installation of Unity CPUs and maintenance of the TSX 7 I/O
- Training the maintenance team and drawing up the technical support contract
- Complete migration of the wiring

Customer benefits
- Reduction of risks due to the technical solution and the project management method
- Commitment to 24/7 support on a tried-and-tested system with which we are completely familiar

Project management
Tools, methods and experienced project leaders, when you are looking for a strong commitment from us to your modernisation projects.

Metallurgy industry: ensuring the best architecture

Customer situation
Definition of the best drive architecture for modernisation of an annealing line with the speed increased by 15%. The future architecture will be designed with AC or DC motors.

Main steps in the project:
- Detailed diagnostics of the existing base: Measurement of motor loads in static and dynamic mode, communication modes used to manage references and operating modes
- Feasibility study of AC solution, motor sizing and definition of control diagrams
- Presentation of possible solutions, associated budgets and project implementation methods

Customer benefits
- Schneider's commitment to the system's overall performance
- Total autonomy in implementation of the recommended solutions

Consultancy and expertise
Additional skills and methodology to identify opportunities, nail down key points and simplify your project management.

Solutions for your DC drives

A high-performance offer...

- Easy replacement of the old Rectivar ranges
- Optimised developments by the provision of numerous built-in application functions.
- Simplified integration in Schneider Electric architectures.

... and services for your strategic machines

- At your side 24 hours a day - 7 days a week.
- A customized approach for transition of the Rectivar ranges to the new offer.
- The garantee to reduce the risks and costs of your modernisation projects.

This offer is included in our full range of services for your installed base.
Contact us for further information.

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